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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,307	07/29/2003	Jobst La Dous	100341.52572US	4469
23911	7590	07/18/2006	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			FIGUEROA, JOHN J	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/628,307	Applicant(s) DOUS, JOBST LA	
	Examiner John J. Figueroa	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The 35 U.S.C. 103(a) rejection of claims 1-6 and 8-10 in item 4 on page 2 of the Office Action of October 18, 2005, hereinafter 'OA', as unpatentable over United States Patent Number (USPN) 5,886,101 to Sommerfeld et al., hereinafter 'Sommerfeld', is maintained for the reasons previously made of record on items 4 and 6 of OA.
2. The objection to claim 7 (item 5 on page 4 of OA) as dependent on a rejected claim is maintained for the reasons previously made of record.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is dependent on method claim 6 and adds an additional step that recites "*forming the body during polymerization*" [emphasis added] which is vague and confusing. This claim language is indefinite because it is unclear as to which "polymerization" Applicant is referring to: the polymerization recited in claim 4 (polymerization to form the whole interpenetrable polymer network) or the one recited in claim 6 (polymerization of the second polymer network).

Moreover, it is also unclear as to whether Applicant is implying that the entire synthetic resin body must be formed *before* completing polymerization, whether the body is completely formed *from* polymerization, or, alternatively, whether the synthetic resin body is particularly formed during the “thermal, radical or UV-light polymerization” of the second polymer network as recited in claim 6.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sommerfeld.

Claim 11, which depends from claims 4 and 6, recites a method step of “forming the body during polymerization.” As stated above in paragraph #4, this phrase is indefinite, *inter alia*, because it is unclear as to which “polymerization” Applicant is referring to: the polymerization of the whole interpenetrating network recited in claim 4 or the polymerization of the second polymer network recited in claim 6. Because this claim language is indefinite, Examiner is providing this claim limitation with the broadest weight possible and interpreting the limitation to apply to forming a body (for an application) from either polymerization recited in claim 4 or claim 6.

Sommerfeld was discussed previously in item 4 on page 2 of OA and these arguments are incorporated herein.

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Sommerfeld further teaches that the polymerization residues of the composition of matter containing the interpenetrable polymeric network (body formed from polymerization) can contain a pigment or a colorant dispersed therein and be used as films for semi-permeable membranes, for structural automobile parts and panels, as mold release films, adhesive films, as a photoresist for printed circuit boards, solder masks, and as plastic materials in aircraft. (Col. 13, lines 17-48 and 55-66; col. 14, lines 27-67; col. 23, line 65 to col. 24, line 18; col. 24, line 32 to col. 25, line 29; col. 25, lines 50-65) In addition, Sommerfeld teaches that these interpenetrable polymeric networks have superior toughness-flexibility and solvent-resistance and that these polymeric composition products are particularly useful in photosensitive compositions, such as photoresists and solder masks. (Col. 13, lines 49-54)

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time that the claimed invention was made, to use the formed product (body) during Sommerfeld's polymerization process in an application, such as a photoresist or as a solder mask. It would have been obvious to one in the art to do so to provide a photoresist or solder mask having enhanced marketable properties, such as toughness-flexibility and solvent-resistance, in accordance with Sommerfeld's own teachings.

Thus, the claim is unpatentable over Sommerfeld.

Response to Arguments

The 35 U.S.C. 103 Rejection over Sommerfeld (item 4 on page 2 of OA)

7. Applicant's arguments and declaration, filed April 18, 2006, regarding the 35 U.S.C. 103 (a) rejection of claims 1-6 and 8-10 as obvious over Sommerfeld have been fully considered but they are not persuasive.

In response to Applicant's arguments that Sommerfeld requires at least one of the polymer networks to be formed by polymerization in a solvent, Examiner respectfully reminds Applicant that independent claims 1, 4 and 10 do not recite forming the polymer network(s) without a solvent and that independent process claim 4 recites "comprising" language which can include steps for forming a polymeric network using a solvent followed by its subsequent removal.

Moreover, although Sommerfeld does disclose using a solvent when forming one of the polymer networks, Sommerfeld further discloses removing the organic liquid (solvent) prior to using the formed polymeric network composition (body) and that the body may contain a pigment or colorant dispersed therein (i.e. a homogeneous distribution). (Sommerfeld, col. 13, lines 17-45)

Regarding the comparative studies in Applicant's declaration between photochromic resins of the claimed invention (Examples 3 and 4) and two conventional photochromic polymeric resins (Comparative Examples 1 and 2) demonstrating "superior photokinetic properties" for the resin bodies produced in accordance with the instant invention, these comparative polymeric resins in Examples 1 and 2 are not

commensurate with Sommerfeld's compositions which are also formed from an interpenetrable polymer network.

Declarant's statement that "[s]urprisingly, the additional formation of a second network ... produces a faster lightening compared to the single-resin examples" may be accurate regarding the comparative examples used in the study in declaration but it is not applicable to the interpenetrable polymeric network composition disclosed in, e.g., Examples 7-12 of Sommerfeld.

In response to Declarant's assertion that Sommerfeld fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. "superior photokinetic properties") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In terms of claim 5, regarding Applicant's assertion that "the *first* network in Example 7 is formed using ... [a] cured catalyst (i.e. initiator)," although this is correct, Sommerfeld forms the *other* polymeric network in Example 7 without using an initiator. Claim 5 does not require that both polymers be formed without using an initiator and, furthermore, claim 4, the independent method claim from which claim 5 depends from, recites "comprising" language. Therefore, it is irrelevant as to which network, the "first" or "second" one in the claimed invention or in Sommerfeld, is formed without an initiator as long as at least one of the two is not.

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Accordingly, claims 1-9 remain unpatentable over Sommerfeld and the rejection is maintained.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

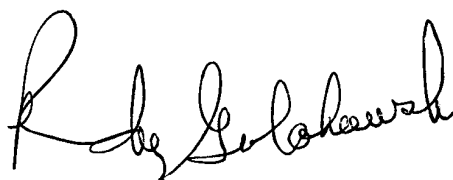
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG



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